WHAT IS CLAIMED IS:

1. A method for modifying a ceramic surface, comprising polishing the surface with an abrasive under conditions sufficient to decrease the wettability of the ceramic surface by aqueous solutions.

2. The method according to claim 1, wherein the abrasive comprises a slurry.

3. The method according to claim 1, wherein the abrasive comprises particles having a particle size ranging from about 3 microns to about 9 microns.

4. The method according to claim 3, wherein the abrasive comprises particles having an average particle size of about 6 microns.

5. The method according to claim 1, wherein the abrasive comprises particles having a particle size distribution:

5%	10%	50%	90%	95%
>7.8 μm	>7.2 μm	>5.8 μm	>4.8 μm	>4.5 μm

6. The method according to claim 2, wherein the abrasive comprises diamond particles.

7. The method according to claim 2, wherein the abrasive comprises silicon carbide particles.

8. The method according to claim 2, wherein the surface is polished by lapping, tumbling, vibratory milling, or by contact with a rotating polishing wheel.

9. The method according to claim 1, wherein the surface is polished for approximately 10-20 seconds/cm^2 of ceramic surface.

10. The method according to claim 1, wherein the surface is polished until it becomes visibly reflective.

11. The method according to claim 1, wherein the surface is polished until it has a surface finish of about 8 to about 15 microinches after polishing.

12. The method according to claim 1, wherein the ceramic surface exhibits a contact angle with the aqueous solution that increases from about 15-20° before polishing to about 40-50° after polishing.

13. A method for modifying a ceramic surface, comprising contacting the ceramic surface with a silane and heating for a sufficient time at a sufficient temperature to decrease the wettability of the ceramic surface by aqueous solutions.

14. A method for modifying a ceramic surface, comprising,

(a) contacting the surface with an alkyl-containing silane; and

(b) heating the surface and the alkyl-containing silane under conditions sufficient to react at least a portion of the hydroxyl groups on ceramic surface with the alkyl-containing silane.

15. The method according to claim 13, wherein the silane is a methyl silane.

16. The method according to claim 13, wherein the silane is a halotrialkylsilane.

17. The method according to claim 16, wherein the halotrialkylsilane is trimethylchlorosilane.

18. The method according to claim 13, wherein the silane is a dihalodialklysilane.

19. The method according to claim 18, wherein the dihalodialklysilane is dichlorodimethylsilane.

20. The method according to claim 13, wherein the silane is a trihalomethylsilane.

21. The method according to claim 20, wherein the trihalomethylsilane is trichloromethylsilane.

22. The method according to claim 13, further comprising,

removing unreacted residual silane from the surface.

23. The method according to claim 22, wherein the removal is accomplished by heating.

24. The method according to claim 13, further comprising removing at least a portion of physically attached water on the ceramic surface prior to contacting.

25. The method according to claim 24, wherein said physically attached water is removed by heating the surface.

26. The method according to claim 25, wherein the surface is heated to a temperature between about 70 °C and about 150 °C.

27. The method according to claim 26, wherein the surface is heated to a temperature between about 110 °C and about 120 °C.

28. The method according to claim 25, wherein the surface is heated for a time between about 10 min. and about 120 min.

29. The method according to claim 28, wherein the surface is heated for a time between about 30 min. and about 60 min.

30. The method according to claim 24, wherein said physically attached water is removed by subjecting the surface to vacuum.

31. The method according to claim 24, wherein said physically attached water is removed by washing the surface with a solvent.

32. The method according to claim 31, wherein the solvent is water miscible.

33. The method according to claim 32, wherein the water miscible solvent is acetone.

34. The method according to claim 13, wherein the contacting comprises exposing the ceramic surface to a silane that is either a neat liquid or in the form of a solution or vapor for a time ranging between about 1 min. and about 60 min.

35. The method according to claim 34, wherein the silane is in the form of a neat liquid.

36. The method according to claim 34, wherein the silane is in the form of an ethanol solution having a concentration of silane between about 5 wt % and about 100 wt %.

37. The method according to claim 13, wherein the heating comprises exposing the ceramic surface and silane to a temperature between about room temperature and about 800 °C for a time between about 10 min. and about 90 min.

38. The method according to claim 37, wherein the heating comprises exposing the ceramic surface and silane to a temperature between about 200 °C and about 500 °C.

39. The method according to claim 37, wherein the heating comprises exposing the ceramic surface and silane to said temperature for a time between about 10 min. and about 30 min.

40. The method according to claim 13, wherein the ceramic surface exhibits a contact angle with an aqueous solution that increases from about 15-20 degrees prior to modifying to about 80-90 degrees after modifying.

41. A ceramic material comprising a surface that has been treated by polishing the surface with an abrasive under conditions sufficient to decrease the wettability of the ceramic surface by aqueous solutions.

42. The ceramic material according to claim 41, wherein the ceramic surface comprises alumina.

43. A ceramic article made from the ceramic material of claim 41.

44. The ceramic article of claim 43, which is selected from the group consisting of an IEF gel strip holder, a gel support, and a microarray plate.

45. A ceramic material comprising a surface that has been treated by contacting the ceramic surface with a silane and heating for a sufficient time at a sufficient temperature to decrease the wettability of the ceramic surface by aqueous solutions.

46. The ceramic material according to claim 45, wherein the ceramic surface comprises alumina.

47. A ceramic article made from the ceramic material of claim 45.

48. The ceramic article of claim 47, which is selected from the group consisting of an IEF gel strip holder, a gel support, and a microarray plate.

49. A sample holder for chemical analysis, comprising a ceramic surface having a contact angle of greater than about 40 ° with an aqueous solution comprising about 6 to about 9.8 M urea.

50. The sample holder of claim 49, which is adapted to hold a gel strip for isoelectric focusing.

51. The sample holder of claim 49, which is adapted to hold an electrophoresis gel.

52. The sample holder of claim 49, which is a multiwell microarray plate.